

CLAIMS

What is claimed is:

lyrics
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1. A computer-readable medium comprising stored information that describes a first musical composition for use in selecting the first musical composition from among a plurality of other musical compositions that are similar to the first musical composition, wherein the stored information comprises a plurality of classification values that distinguish among features of the musical compositions.
1. 2. A computer-readable medium as recited in Claim 1, wherein the classification values comprise at least one song attribute.
1. 2. 3. A computer-readable medium as recited in Claim 1, wherein the song attribute comprises at least one song attribute value indicating Weight, Intensity, Chord Movement, Range, Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description, Consonance, Mood, Dynamics, Language, Ethnic Flavor, or Style.
1. 2. 3. 4. A computer-readable medium as recited in Claim 1, wherein the song attribute comprises at least one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type, or Rhythm Description, or Tempo.
1. 2. 3. 5. A computer-readable medium as recited in Claim 1, wherein the song attribute comprises at least one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or Hip Hop Shuffle.
1. 2. 3. 6. A computer-readable medium as recited in Claim 1, wherein the song attribute comprises at least one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing, Free, Funky, Groovy, Syncopated, or Stiff.

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1 7. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition.

sub B3 1 8. A computer-readable medium as recited in Claim 1, wherein each of the voice values
2 is at least one of Rasp, Sweet, Sultry, Whiny, Forceful, Aggressive, Monotonous,
3 Clear, Processed, Jangly, Shimmering, Thick, Thin, or Lush.

1 9. A computer-readable medium as recited in Claim 1, wherein the classification values
2 comprise a mood value of Dreamy, Soothing, Fun, Depressing, Angry, Lonely,
3 Creepy, Groovy, Uplifting, Sexy, Rockin', or Neutral.

1 10. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Range, Intensity,
5 Cleanliness, Rhythmic Activity, or Melodic Movement.

1 11. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Prominence, Ornamentation,
5 Beat, Presence, or Flow.

1 12. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Range, Intensity,
5 Cleanliness, Rhythmic Activity, or Melodic Movement.

1 13. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise a first voice value that identifies a first voice of a plurality of voices
3 present in the first musical composition, and wherein the voice value is associated
4 with a harmony value that identifies a second voice among the plurality of voices with
5 which the first voice harmonizes.

1 14. A method of creating stored information that describes a first musical composition for
2 use in selecting the first musical composition from among a plurality of other musical
3 compositions that are similar to the first musical composition, according to a plurality
4 of classification values that distinguish among features of similar kinds of musical
5 compositions, comprising the steps of:
6 receiving musical information from the first musical composition and determining its
7 features;
8 creating and storing a new set of the classification values for the first musical
9 composition based on the features that are determined; and
10 reviewing the new set of classification values based on quality control criteria.

1 15. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute.

1 16. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Dynamics, Ethnic Flavor, or Style.

1 17. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least

3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.

1 18. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.

1 19. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 20. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition.

1 21. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one voice values of Raspy, Sweet,
3 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
4 Shimmering, Thick, Thin, or Lush.

1 22. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 23. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and

4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 24. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Prominence, Ornamentation, Beat, Presence, or Flow.

1 25. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 26. A method as recited in Claim 14, wherein creating and storing the classification
2 values further comprises creating and storing a first voice value that identifies a first
3 voice of a plurality of voices present in the first musical composition, and wherein the
4 voice value is associated with a harmony value that identifies a second voice among
5 the plurality of voices with which the first voice harmonizes.

1 27. A method of matching information that describes a first musical composition to stored
2 information that describes a plurality of other musical compositions that are similar to
3 the first musical composition, wherein the stored information comprises a plurality of
4 classification values that distinguish among features of similar kinds of musical
5 compositions, comprising the steps of:
6 receiving first musical information that describes the first musical composition and
7 that includes a first set of classification values based on features of the first
8 musical composition;

9 receiving second musical information that describes the plurality of other musical
10 compositions and determining their features;
11 creating and storing a second set of the classification values for the plurality of other
12 musical compositions based on the features that are determined;
13 matching the first musical information to the second musical information based on the
14 classification values; and
15 creating and storing a list of one or more matching musical compositions selected
16 from among the plurality of other musical compositions based on the matching
17 step.

1 28. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute.

1 29. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Ethnic Flavor, Style, or Dynamics.

1 30. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.

1 31. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.

1 32. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 33. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices or instruments present in the first musical
4 composition.

1 34. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one voice values of Raspy, Sweet,
3 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
4 Shimmering, Thick, Thin, or Lush.

1 35. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 36. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 37. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and

4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Prominence, Ornamentation, Beat, Presence, or Flow.

1 38. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 39. A method as recited in Claim 27, wherein creating and storing the classification
2 values further comprises creating and storing a first voice value that identifies a first
3 voice of a plurality of voices present in the first musical composition, and wherein the
4 voice value is associated with a harmony value that identifies a second voice among
5 the plurality of voices with which the first voice harmonizes.

1 40. A method as recited in Claim 27, further comprising weighting each of the
2 classification values using a pre-defined weight value prior to carrying out the
3 matching step.

1 41. A method as recited in Claim 27, further comprising weighting each of the
2 classification values based on prior matches of the first musical composition to other
3 musical compositions that are associated with a particular client prior to carrying out
4 the matching step.

1 42. A method as recited in Claim 27, wherein the matching step comprises computing a
2 difference value of each a pair of associated classification values of the first
3 information and the second information, computing a square of the difference values,
4 and computing a sum of the differences.

1 43. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among the plurality of other musical
3 compositions based on a plurality of pairs of associated classification values.

1 44. A method as recited in Claim 33, wherein the matching step comprises matching
2 musical compositions selected from among the plurality of other musical
3 compositions based on a plurality of pairs of associated classification values and by
4 additionally using pre-defined metadata that defines one of the voices as similar to
5 another of the voices.

1 45. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm types as similar to another
5 of the rhythm types.

1 46. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm descriptions as similar to
5 another of the rhythm descriptions.

1 47. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm time signatures as similar
5 to another of the rhythm time signatures.

1 48. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the mood descriptions as similar to
5 another of the mood descriptions.

1 49. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the languages as similar to another of
5 the languages.

1 50. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the ethnic flavors as similar to another
5 of the ethnic flavors.

1 51. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the styles as similar to another of the
5 styles.

1 52. A method as recited in Claim 27, further comprising the steps of suggesting a second
2 musical composition that may be similar to the first musical composition by
3 successively carrying out the matching step a plurality of times for a plurality of
4 matching compositions, each of which is slightly different from the previous
5 composition.

1 53. A method as recited in Claim 27, further comprising the steps of selecting and audibly
2 playing one of the musical compositions from a stored collection of the musical
3 compositions based on the list.

1 54. A graphical user interface useful for selecting a first musical composition from among
2 a plurality of other musical compositions that are similar to the first musical
3 composition, based on stored information that comprises a plurality of classification
4 values that distinguish among features of the musical compositions, the graphical user
5 interface comprising a plurality of graphical interface widgets that may be used to
6 select a particular value for each of the classification values.

1 55. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Ethnic Flavor, Style, or Dynamics.

1 56. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.

1 57. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.

1 58. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least

3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 59. A graphical user interface as recited in Claim 54, comprising a plurality of voice
2 graphical user interface widgets, each of which is configured to set one or more voice
3 values, each of which identifies one of a plurality of voices present in the first musical
4 composition.

1 60. A graphical user interface as recited in Claim 54, comprising a plurality of voice
2 attribute graphical user interface widgets, each of which is configured to set one or
3 more voice values, wherein each of the voice values is at least one of Rasp, Sweet,
4 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
5 Shimmering, Thick, Thin, or Lush.

1 61. A graphical user interface as recited in Claim 54, comprising a mood attribute
2 graphical user interface widget configured to set a mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 62. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical
4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic
6 Movement.

1 63. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical

4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Prominence, Ornamentation, Beat, Presence, or Flow.

1 64. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical
4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic
6 Movement.

1 65. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set a first voice value that
3 identifies a first voice of a plurality of voices present in the first musical composition,
4 and wherein the voice value is associated with a harmony value that identifies a
5 second voice among the plurality of voices with which the first voice harmonizes.

1 66. A method of matching information that describes a first object to stored information
2 that describes a plurality of other objects that are similar to the first object, wherein
3 the stored information comprises a plurality of classification values that distinguish
4 among features of similar kinds of objects, comprising the steps of:
5 receiving first information that describes the first object and that includes a first set of
6 classification values based on features of the first object;
7 receiving second information that describes the plurality of other objects and
8 determining their features;
9 creating and storing a second set of the classification values for the plurality of other
10 objects based on the features that are determined;
11 matching the first information to the second information based on the classification
12 values; and
13 creating and storing a list of one or more matching objects selected from among the
14 plurality of other objects based on the matching step.

1 67. A method as recited in Claim 66, in which the object is a pre-recorded motion picture.

1 68. A method as recited in Claim 66, in which the object is a book..

1 69. A method as recited in Claim 66, in which the object is a television program.

1 70. A method as recited in Claim 66, in which the object is a beverage.

1 71. A method as recited in Claim 66, in which the object is a work of art.

1 72. A method as recited in Claim 66, in which the object is a perfume.

1 73. A method as recited in Claim 66, in which the object is a human model.

1 74. A method as recited in Claim 66, in which the object is a game.

1 75. A method as recited in Claim 66, in which the object is a food.

1 76. A method as recited in Claim 66, in which the object is a piece of apparel.